OWNERSHIP, SCALE SIZE AND ECONOMIC ANALYSIS OF THE STATE FOREST ENTERPRISES CONSTITUTE THE FRAME OF FORESTRY SECTOR

by

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Abstract

In the coverage of this paper, firstly the ownership and scale size of Turkish forestry will be evaluated and then it is aimed that an economic analysis of Turkish forestry sector formed by the state forest enterprises, which have a large-scale state ownership and management will be done by using input-output analysis model to expose production, added value, export-import and relations with other sectors and also to determine the production, income and employment impacts of the sector in the national economy.

Keywords: Forestry Sector, State Forest Enterprise, Forest Enterprise Chief, Forest Ownership, Forestland Size, Input-Output Model, Economic Analysis

1. INTRODUCTION

Turkish forest area occupies about 26.6 % (20.7 million hectares) of entire land area and the ownership and management of 99.9 % of total forest area belong to the State (MOF, 2000). The Ministry of Forestry (MOF) is responsible for this area, but 48 percent of what is designated as forestland consists of productive forests while the remaining 52 percent is made of degraded forests, rangelands and eroded areas (Muthoo, 1997; Konukçu, 1998).

Economic management activities realised in the forestry sector, which take part among the main production sectors in Turkish economy are carried out by 248 State Forest Enterprises (SFEs) especially under the General Directorate of Forests subordinated by the Turkish Ministry of Forestry. The average sizes of the area managed by the SFEs are 83 000 ha. According to the Dietrich classification, these sizes of SFEs are much over 1000 ha (Fırat, 1971), and therefore, SFEs are large-scale enterprises.

When the multiple physical and non-physical benefits obtained from forest resource are taken into consideration, it will be seen that many problems exist in the forest management activities. The most important one within these problems is that the SFEs activate on very large area and therefore, a productive and intensive management depending on large-scale enterprise approach cannot be achieved. As nearly all forests are in the state ownership and not to be legally transferred to private sector, large-scale forest enterprises have to exist in the Turkish forestry sector.

The forestry sector is one of the 64 sectors, which constitute the Turkish economy. Input-output models are one of the most suitable models for analysing the structure between sectors in a country. These models have analytically exposed the general economic structure of country and the relations between all sectors in economy. In addition, input-output models play important role in dealing with the economic problems such as production, income and employment of sectors (Türker, 1999).

In the coverage of this paper, firstly the ownership and scale size of Turkish forestry will be reviewed and then an economic analysis of Turkish forestry sector formed from the SFEs that have a large-scale state ownership and management will be done by using input-output analysis model to expose its production, added value, export-import and relations with other sectors and also to determine the production, income and employment impacts of the sectors in the national economy.

2. BASIC INFORMATION ABOUT TURKISH FORESTRY

In this section, some basic information such as area, growing stock, annual increment etc. and the ownership situation and management types of forest resources in Turkey will be given briefly. After giving this basic information, the administration of Turkish forest resource and the structure of forest organization and lastly scale size of forest management will be reviewed and evaluated.

2.1. Ownership and Management Characteristics

Almost all of forest area is owned by the State. The private-owned forest area is only 0.01 % of total forest area in Turkey. These private forests are owned by 277 forest land owners and 51 public organizations (SPO, 2001).

Turkish State Forests have been managed since the early 1960s under traditional forest management plans which are prepared and revised on a ten-year cycle. Management plans typically one or two watersheds, and most management
plans concentrate upon the silviculture and utilization of the forest resources, with less attention given to the social development of forest villagers as actual and potential co-managers of forests and rangelands (Mutthoo, 1997).

The understanding of wood raw material based management is dominated in the Turkish forestry. Therefore, the multiple uses of forests have generally been ignored. The management plans mentioned above have also been prepared according to the maximum production of wood raw material.

2.2. Administration and Organization

The Ministry of Forestry has carried out the administration of almost all forest area in Turkey and management activities on these forest areas. The Ministry of Forestry (MOF) is headed by a Cabinet Minister, an Under-secretary and four Deputy Under-Secretaries. The Ministry has six ancillary units dealing with legal, administrative and research activities, but majority of the staff are employed in four general Directorates; namely, Forests, National Parks and Hunting-Wildlife, Afforestation and Erosion Control, and Forest and Rural Affairs.

State forests divided by regional, district, sub-district administration basis such as 27 Regional Forest Directorates (RFD), 241 SFE, and 1328 Forest Administration Chief Offices (FACO). Forest management activities realized in the forestry sector, which take part among the main production sectors in Turkish economy are carried out by RFD with SFE and FACO under the General Directorate of Forests subordinated by the Turkish Ministry of Forestry.

Economic management activities realized in the forestry sector, which take part among the main production sectors in Turkish economy are carried out by 241 SFE especially under the General Directorate of Forests subordinated by the Turkish Ministry of Forestry.

2.3. State Forest Enterprises and Scale Size

The physical and financial criterion can be taken into account as size criterion for the forest enterprises as well as for other enterprises. The criteria for economical size of a forest enterprise can be physical and monetary in nature. The physical criteria are forestland, growing stock, allowable cut and production while the monetary criteria are capital (revenue and profit). Since the fluctuations in the value of money in time put some obstacles in the use of monetary criteria as a criterion in determining the economical size of a forest enterprise was selected the growing stock which is the most important factor determining the economical size (Yazıcı, 1991).

The political decisions are more effective on the determination of forest enterprise’s scale size than the physical, social, economic etc. characteristics. Therefore, the very important changes have not occurred in the Turkish forest resources, the number of the SFEs, which are fundamental units in this resource management, is continuously changing. As a matter of fact, 292 SFEs were established from 1937 to 1980 and within the same period 86 SFEs were closed, and 43 SFEs were re-opened and again closed. One of the main reasons of these frequently closing and opening is that the economic criterion is not adequately taken into consideration in the foundation of forest enterprises (Yazıcı, 1991). As an extension of this alteration, the numbers of SFE were increased from 207 in 1985 to 241 in 1992 (Geray, 1992). It is stated that this situation has arisen from that the objective criterion are not taken into consideration in the opening and closing of forest enterprises.

At present, in Turkish forestry, there are 27 RFD which are divided into 9 SFE as an average (total number of SFE is 241 in 2000). Average size of FACO varies between 10-100 thousands hectares, one SFE may cover 3-15 FACO. As SFEs are fundamental units in which forest management activities are realized technically, economically and financially, the SFEs can be taken into consideration as the average size of forest property.

Dietrich took into consideration the forest area as size criterion when he classified the forest enterprises in Germany conditions (Firat, 1971). The average sizes of the area managed by the SFEs are respectively 83 000 ha. According to the classification of Dietrich, as these sizes are larger than 1000 ha, these SFEs are large-scale enterprises. The main reason of that the Forest Enterprises have very large forest area is undoubtedly that the ownership and management right of nearly all forest area belong to the State.

According to data presented in 1998 (MOF, 2000), on an average 190 people have been employed in a SFE. When the number of people employed by the enterprise is taken into consideration, the SFEs are also named as large-scale enterprises.

3. ECONOMIC ANALYSIS OF TURKISH FORESTRY SECTOR USING THE INPUT-OUTPUT METHOD

The input-output tables prepared by taking into consideration the sectors placed in the economy are basic tools in preparing the development plans. The plans aiming the economic development have been prepared by using the input-output tables since 1963 when the planned period started in Turkey (Erdoğanuş, 1988). The input-output tables are the tables showing the flows of goods and services between industries.

The enterprises, which are active at various sizes and sectors, constitute the economy of a country. The considerable parts of economic activities realized in the
Turkish forestry sector occur in the SFE. It is stated that it is necessary to be considered the position of the forestry sector, which takes part in the fundamental production sectors among the 64 sectors that constitute the Turkish economy.

The main purpose of this paper is to expose the importance of the forestry sector in the national economy by dwelling upon the impacts of forestry sector as production, added value, import, export and relations with other sectors in the 64 sectors and determining the production, income and employment effects which would be provided by the forestry sector in the national economy (Türker, 1999).

3.1. MATERIAL AND METHOD

3.1.1. MATERIAL

The data used to attain the clarified purpose has been provided from the tables of Inter-industries treatments, input-output coefficients matrix and technological coefficients inverse matrix by the State Institute of Statistics (SIS) for all over the country (SIS, 1994).

3.1.2. METHOD

In this research, the input-output method, which is applicable in analysing the economic issues such as production, income and employment, and analytically exposing the relations between the sectors that give information about both general economic position of country and a certain region of it, were used.1

Selection of Base Years

The tables in question prepared by SIS for 1979, 1985 and 1990 are taken into consideration to expose the changes occurred in the national economy and forestry sector.

The Determination of Sector Related to Forestry

The forestry sector that takes part among the fundamental production sectors in the Inter-industries Treatments Tables prepared by SIS and included 64 sectors and is numbered as 03 has been chosen for this research.

Forestry sector as suitable for the limitation of goods according to the sectors taking part in the I-O Table includes the sub-sectors of non-wood forest products and wood industry and other wood based forest products (SPO, 1982).

I-O Model

I-O Model is based on the tables named as “I-O Flow Table” and it is also called as Inter-industries Treatments Table (Bocutoğlu, 1985). I-O Model has one main table and three tables derived from it. These are the I-O Flow Table, Technical Coefficients Matrix and Inverse Matrix Tables (Connor, 1975).

I-O Flow Table

This table shows the flows of goods and services among all the sectors of national economy (Çakir, 1987 and Leontief, 1966).

Input Coefficients Matrix

In the I-O model, input coefficient is the proportion of input values that any industry has to purchase from other industries to be able to produce one unit output, to the outputs of relevant industry.

Inverse Matrix

Briefly, the highest values in the sums of row and column elements in the inverse matrix means that the demand increase devoted to this sectors rather than the final demand increase devoted to other sectors.

Inter-Industries Forward and Backward Linkages Rates

I-O Tables show the sum of intermediate inputs which the sectors are purchasing from other sectors or selling to other sectors as well as the inter-industries economic relations and also indicate the inter-industries interaction. The importance of sector in the economy is measured with the effectiveness of the forward and backward linkages.

Multiplier Analysis

The multiplier analysis by using the I-O works is an important approach used to make national and regional planning.

In this research, three kinds of multiplier will be calculated. These are production, income and employment multipliers, and explained as follows (Çakir, 1987 and Morrison, 1977):

Simple Production Multiplier

This multiplier shows the production impact of one unit increase in the final demand of each sector on the economy.

Simple Income Multiplier

Simple income multiplier in any sector is an additional increase in the household incomes arisen from the unit increase in the final demand.

Simple Employment Multiplier

Simple employment multiplier indicates the direct and indirect influences of one unit increase in the sector’s final demand. If the employment multipliers of all sectors are known, it can be determined which sectors should be taken into consideration to maximize the total employment in the country.

4. FINDINGS AND DISCUSSION

1 Because of length limitation with 6 double column pages, the full text paper presented in the 2001 SOFEW meeting has been reduced to 6 pages. Therefore, the detailed theoretical information has not been given in text.
The findings obtained as a result of applying the input-output analysis to the data collected and mentioned in material section for this research which is aiming to introduce the importance of forestry sector in the national economy, and arguments related to these results are given under sub-titles.

4.1. I-O Flow Table Findings and Discussion

The I-O findings belonging to years 1979, 1985 and 1990 concerning the national economy and relevant debates are given in the following sub-titles (Türker, 1994; Türker, 1996).

Findings Concerning The Production

The production findings belonging to years 1979, 1985 and 1990 concerning the national economy are shown in Table 1.

The share of forestry sector’s total production in the total production of national economy formed by 64 sectors is 0.5 % (five in thousand) on an average with 0.5 % in 1979, 0.6 % in 1985 and 0.5 % in 1990. In this case, the most important point is that the contribution of forestry sector’s production to the national economy is at a low rate such a 0.5 % on an average. The case, especially, is arisen from including in calculation the mostly wood based forest products and partly non-wood based forest products such as timber, minepole, wirepole, paper wood, fiber and chip wood, industrial wood, fuelwood, resin, stryax (Luqiudambar oil) etc. But, it is stated that the share of forestry sector in the national economy would be rising from 0.5 % to 1.76 % if the private sector wood production and illegal fuelwood production are included in the calculation (Çakır, 1984). Moreover, the forestry sector also provide some services such as erosion control, water production, regulation of water regime, to extend the economic life of dams, meet the recreational needs etc. which could not be valued in monetary term. If these services provided by forestry sector are included in the calculation, the share of forestry in the national economy will be higher.

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>21059</td>
<td>356756</td>
<td>3853029</td>
</tr>
<tr>
<td>64 sectors</td>
<td>4290072</td>
<td>61087242</td>
<td>751206862</td>
</tr>
</tbody>
</table>

VoF : Value of Production (Million TL)
SoF : Share of forestry and other sectors (%)

Export and Import Findings and Discussion

The export and import findings belonging to years 1979, 1985 and 1990 concerning the national economy are shown in the following tables. While the export/import rate of 64 sectors in the national economy is 71 % on an average with 49 % in 1979, 88 % in 1985 and 75 % in 1990, the export/import rate of forestry sector in the relevant years are respectively 14 %, 27 % and 6 % an average 16%. This rate is quite at a low level.

Similarly, the shares of forestry sector’s export and import in the total export and import of the national economy are respectively 0.0005 (five in ten thousands) and 0.0006 (6 in ten thousands), and these rates are at the low level which might be ignored.

It might be summarized that this characteristic of forestry sector about export and import matters arisen from the sector’s production is mostly devoted to home consumption, the export opportunities are very limited and this characteristics of the sector might be only changed in a long period (Geray, 1986). In another word, the products obtained from Turkish forests cannot meet the home demand and the case will continue for a long period. The supply scarcity must be met by means of importing. Consequently, The forestry is not an export sector (Geray, 1993).

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>126</td>
<td>9729</td>
<td>26322</td>
</tr>
<tr>
<td>64 sectors</td>
<td>102768</td>
<td>5918034</td>
<td>52061555</td>
</tr>
</tbody>
</table>

E : Exports (Million TL)
I : Import (Million TL)

Findings Related to Intermediate Demand - Total Supply

The findings related to the intermediate demand - total supply belonging to years 1979, 1985 and 1990 concerning the national economy are shown in tables below.

While the share of intermediate demand in total supply of 64 sectors was about 39 % in 1979, 1985 and 1990, the average of this rate in the forestry sector is more than the country average with 82 %. These figures show that the part of forestry sector’s outputs which go to intermediate demand is very high compared to the figures of 64 sectors. In another word, the forestry sector is one of the most important industries providing intermediate goods for other sectors.

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>14</td>
<td>27</td>
<td>6</td>
</tr>
<tr>
<td>64 sectors</td>
<td>49</td>
<td>88</td>
<td>75</td>
</tr>
</tbody>
</table>

Export/Import Rate of Forestry and Other Sectors in National Economy

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>14</td>
<td>27</td>
<td>6</td>
</tr>
<tr>
<td>64 sectors</td>
<td>49</td>
<td>88</td>
<td>75</td>
</tr>
</tbody>
</table>

Table 2: Export and Import Quantity of Forestry and Other Sectors.

Table 3: Export/Import Rate of Forestry and Other Sectors in National Economy

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>Export/Import Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>14</td>
</tr>
<tr>
<td>64 sectors</td>
<td>49</td>
</tr>
</tbody>
</table>

Table 4: The Intermediate Demand – Total Supply Quantities of Forestry and Other Sectors in the National Economy

Table 1: The Quantity Share of Forestry Sector’s Production and Others in National Economy

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>21059</td>
<td>356756</td>
<td>3853029</td>
</tr>
<tr>
<td>64 sectors</td>
<td>4290072</td>
<td>61087242</td>
<td>751206862</td>
</tr>
</tbody>
</table>

VoF : Value of Production (Million TL)
SoF : Share of forestry and other sectors (%)

2 TL indicates Turkish Lira
final demand increase of sectors, what all sectors in the economy should do is to give production increases. From this sentence, it can be stated that the increase devoted to the final demand of forestry sector have a little influence on the production increases which other sectors in the economy have to make.

Once again, in the 64 sectors that constitute the national economy, according to the sum of inverse matrix’s row elements, the forestry sector was at the 16th position in terms of the years in question.

The enumeration according to the sum of inverse matrix’s row elements, when the one unit increase in the final demand against the production of all sectors has been occurred, what these sectors should do is to give the sizes of their production. As the one unit increase in the final demand against the 64 sectors placed in the national economy has been occurred, it might be said that the production increases made by the sector related to forestry is high.

Table 8: Total Values and Importance of Inverse Matrix’s Column Elements of Forestry Sector in National Economy

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>0.262</td>
<td>1.274</td>
<td>1.248</td>
</tr>
<tr>
<td>OF</td>
<td>61.59</td>
<td>62.81</td>
<td></td>
</tr>
</tbody>
</table>

TSC : The Sum of Column J Elements
OF : Order of Forestry in the 64 sectors

Table 9: Total Values and Importance of Inverse Matrix’s Row Elements of Forestry Sector in National Economy

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>1.859</td>
<td>1.950</td>
<td>1.824</td>
</tr>
<tr>
<td>OF</td>
<td>16.15</td>
<td>17.82</td>
<td></td>
</tr>
</tbody>
</table>

TSC : The Sum of Column J Elements
OF : Order of Forestry in the 64 sectors

4.3. Forward and Backward Linkages Findings

The results of sectoral interaction analysis done for exposing the economic importance of forestry sector in the 64 sectors are mentioned below.

While the forward linkage rate of the sectors placed in the national economy were calculated as 0.386 on an average for the three base years, the average rate in the forestry sector remained over the overall rate with the rate of 0.820. According to this data, the forward linkage rates of forestry sector are high. Similarly, while the average of the backward linkage rates of the 64 sectors placed in the national economy for 1979, 1985 and 1990 is 0.386, the average of the backward linkage rates for the forestry sector is 0.141 and this rate remained under the overall rate. According to these results, the backward linkage rate of forestry sector is low.

When looking at the sectoral relations as a whole, the forward linkage rate of forestry sector is higher than overall rate and its backward linkage rate is lower than the overall rate. The sector with this characteristic is a
sector that produces the intermediate goods and increases the production of the sectors, which require
the input by making its outputs ready for supply.
With the more clear explanation, the forestry sector is
in a sector position, which its backward linkage is little,
but its forward linkage is big and gives the input to
another sectors. Consequently, the forestry sector is a
sector with the strategic characteristic (Geray, 1993).

4.4. Results of Multiplier Analysis
The production multiplier results obtained from the
multiplier analysis done for the exposing the production,
iincome and employment effects and importance degrees in the national economy of the
forestry sector are shown in Table 11 and the income
multiplier results in Table 12, and the employment
multiplier results in Table 13.

With regard to the income multiplier, at the base of the
national economy, the forestry sector was placed at 53rd
position in the analysis done for the years 1979, 1985
and 1990. According to these figures, the income effect
of the forestry sector is low at the base of national
economy. In another word, when the one unit increase
in the final demand occurred, the income effect which
the forestry sector would constitute in the national
economy forestry sector remains unimportant for the
national economy.

In the Inter-industries Treatments Tables prepared by
SSI for the years 1979, 1985 and 1990, as the number
of workers which work in the sectors were not given,
the employment multiplier of the sectors related to the
forestry could not be calculated. The values regarding
these sectors were obtained from a research done for
Trabzon Sub-Region located in the north part of Turkey
(Özyurt, 1982). According to this research, in the
Trabzon Sub-Region economy, the forestry sector was
at 17th position with regard to the employment effect.
That the forestry sector is effective as regard to the
employment effect is arising from its selection of labor-
intensive technology.

LITERATURE CITED
Bocutoğlu, E., (1982). Inter-industries Approach in the
Analysing the Turkish Import: Input-Output and Linear
Programming Models and An application, Postdoctoral

Analysis, Karadeniz Technical University, Faculty of
Economic and Administration Lecturer’s Notes No: 23,
Trabzon, 100, (in Turkish).

its Applications, Charles Griffin and Company Ltd., Dublin,
173.

Çakır, M., (1987). Regional Planning and The Importance of
Forestry Sector (Bolu Regional Directorate Example),
Forestry Research Institute, Technical Bulletin Series No:
189, Ankara, 77 (in Turkish).

Çakır, M., (1984). The Importance of Forestry Sector in the
National Income, Forest Engineers Association Publication
No: 9, Ankara, 36, (in Turkish).

Erdoğlu, Ş., (1988). Input-Output Model in planning the
Agricultural Sector and Turkey Example, MSc Thesis,
Ankara University, Eskişehir, 98, (in Turkish).

Firat, F., (1971). The Economics of Forest Management,
Istanbul University, Faculty of Forestry Publications No: 155,
Istanbul (in Turkish).

Geray, U., (1986). Planning Lecturer’s Notes, İstanbul
University, Forestry Faculty, İstanbul, (in Turkish).

and Organization Problems, İstanbul University, Faculty of
Forestry, Forestry Research and Application Center
Publication No: 1, İstanbul (in Turkish).

Table 10: Interaction Rates and Importance of the
Forestry Sector with Other Sectors in the National Economy.

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>B_f</td>
<td>0.917</td>
<td>0.756</td>
</tr>
<tr>
<td></td>
<td>B_b</td>
<td>0.160</td>
<td>0.137</td>
</tr>
<tr>
<td>64 sectors</td>
<td>B_f</td>
<td>0.382</td>
<td>0.390</td>
</tr>
<tr>
<td></td>
<td>B_b</td>
<td>0.382</td>
<td>0.390</td>
</tr>
</tbody>
</table>

B_f: Forward Linkage Rate  B_b: Backward Linkage Rate

Table 11: Production Multipliers and Importance
of Forestry Sector in National Economy.

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>PM</td>
<td>1.261</td>
<td>1.274</td>
</tr>
<tr>
<td></td>
<td>PoF</td>
<td>61</td>
<td>59.</td>
</tr>
</tbody>
</table>

PM: Production Multiplier  PoF: Place of Forestry in the 64 sectors

Table 12: Income Multipliers and Importance
of Forestry Sector in National Economy.

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>IM</td>
<td>1.340</td>
<td>1.418</td>
</tr>
<tr>
<td></td>
<td>PoF</td>
<td>52.</td>
<td>56.</td>
</tr>
</tbody>
</table>

IM: Income Multiplier  PoF: Place of Forestry in the 64 sectors

Table 13: Employment Multipliers and Importance
of Forestry Sector in National Economy.

<table>
<thead>
<tr>
<th>SECTOR NAME</th>
<th>1979</th>
<th>1985</th>
<th>1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry</td>
<td>EM</td>
<td>0.291</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>PoF</td>
<td>17.</td>
<td>-</td>
</tr>
</tbody>
</table>

EM: Employment Multiplier  PoF: Place of Forestry in the 64 sectors

When the topic is evaluated with regard to the
production multiplier, it can be said that the forestry
sector is at 60th position in the 64 sectors. From this
point of view, the increase in the final demand of the
forestry sector has the lowest influence on the total
production increase in the national economy.


Web Page of the Ministry of Forestry: 
http://www.orman.gov.tr

MOF (MINISTRY OF FORESTRY) (2000). Facts and Figures Forestry in Turkey, Ankara,


Türker, MF., (2000). Forest Management Lecturer’s Notes, Karadeniz Technical University, Lecturer’s Notes Publication No: 52, Trabzon.
